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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,605	04/08/2004	Zonglai Liu	9363-4	8191

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EXAMINER

WALKE, AMANDA C

ART UNIT PAPER NUMBER

1752

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/820,605

Applicant(s)

LIU ET AL.

Examiner

Amanda C. Walke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37.CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on 6/3/04 and 9/14/04 have been considered by the examiner.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al (5,376,615 or 5,447,901).

Yamaguchi et al disclose a novel color-developing composition comprising a multivalent-metal-modified salicylic acid resin, a color-developing sheet for pressure-sensitive copying paper sheets, said color-developing sheet having a layer of the color-developing composition, and also an aqueous suspension of the color-developing composition. In addition to pressure-sensitive copying paper sheets, the color-developing composition is also usable in heat-sensitive recording paper sheets, copying ink compositions, color-developing agents for transfer-type copying paper sheets, and the like. To produce a pressure-sensitive copying paper sheet by using a color-developing agent, the color-developing agent is generally wet-ground in the

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presence of a surfactant so that the color-developing agent is formed as fine particles having a particle size of 1-10  $\mu\text{m}$  into an aqueous suspension. Upon formation of the suspension, a dispersant is also used. The selection of a combination of particles to be dispersed and a dispersant for the provision of a good dispersion system practically relies upon experiences in many instances, and there is no general rule therefor. When a dispersant is chosen, it is necessary to take into account not only its dispersing ability but also its interaction with dispersed particles. For example, for phenol-formaldehyde condensation products which have been employed as color-developing agents in pressure-sensitive copying paper sheets, an anionic high molecular weight surfactant of the polycarboxylic acid type, specifically the sodium salt of maleic anhydride-diisobutylene copolymer is usually used as a dispersant. However, if this dispersant is used upon formation of the color-developing composition, which comprises the above-described multivalent-metal-modified salicylic acid resin, into an aqueous suspension, a complex is inconveniently formed between the multivalent metal and the carboxylic acid salt in a substantial reduction in the dispersing ability and dispersion stability, production of hardly defoamable foams, changes in the physical properties of the color-developing agent due to modifications of the multivalent-metal-modified salicylic acid resin as a dispersoid, etc. It is therefore impossible to obtain any practically usable aqueous suspension. Salts of naphthalenesulfonic acid-formaldehyde condensation products, salts of ligninsulfonic acid, and the like--which were previously employed for color-developing agents of the phenol-formaldehyde condensation products--include those capable of showing dispersing ability for color-developing compositions comprising a multivalent-metal-modified salicylic acid resin. When they are employed in pressure-sensitive copying paper sheets, the pressure-sensitive copying paper sheets are

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accompanied by drawbacks such as coloration, light yellowing or the like of the paper surfaces due to the dispersants themselves so that such dispersants substantially lack practical utility.

It appears that the formulas of the reference meet the structural limitations of the instant claims, thus the references are anticipated.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishimura et al (5,647,896), Muir et al (2004/0138076), Watanabe et al (2003/0224935), Imai et al (6,124,077), and Kubota et al are cited for their teachings of similar materials/ compounds.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Amanda C Walke

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Examiner

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ACW

September 27, 2005